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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,945	08/13/2004	Yi Qu	FMC 1793 PUS / 81101459	4944
28395 7590 01/04/2007 BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			EXAMINER BINDA, GREGORY JOHN	
			ART UNIT 3679	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/04/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/710,945	QU ET AL.	
	Examiner	Art Unit	
	Greg Binda	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

2. Claims 11-16 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 21, 2006.

Drawings

3. The replacement drawings filed December 1, 2006 are approved.

Claim Objections

4. The claims are objected to as failing to comply with 37 CFR 1.75(i) because elements of the claims are not separated by line indentation.
5. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claim Rejections - 35 USC § 112

6. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that

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the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 & 7 recite the limitation, "the tapered sides each having an equal, substantially uniform taper angle (α_d)". Applicant has not pointed out where this limitation is supported, nor does there appear to be a written description of the limitation in the application as originally filed.

Fig. 4 shows each of the tapered sides 32, 34 having "an angle (α_d)" but that "angle" is expressly disclosed in paragraph 0026 as representing a range of angles of unequal values. Since any one angle (α_d) is equal to a value between 20 and 60 degrees, there is no support for the contention that the two angles (α_d) in Fig. 4 must be equal to the same value.

Claim Rejections - 35 USC § 102

7. Claims 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Breese et al, US 5,983,497 (Breese). Fig. 4 shows a collapsible driveshaft 10 comprising a unitary tube 36 having an outer portion and a number of depressed portions 36c (see col. 6, lines 44 & 45) that include all limitations of the claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breese. Fig. 4 shows a collapsible driveshaft 10 comprising a depressed portion 36c that has tapered sides such that each side has a uniform angle, but does not expressly disclose the angles of the tapered sides being equal to each other. However, the angles appear to be equal and applicant has not disclosed making the angles equal solves any particular problem or is for any particular purpose (applicant did not even disclosed in his original disclosure that the angles are equal). As such the use of equal angles is deemed to be a design consideration that fails to patentably distinguish over the prior art to Breese.

As for claims 3 & 8, Breese does not expressly disclose a taper angle between 20 and 60 degrees. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the taper angle substantially between 20 and 60 degrees, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056.

10. Claims 1-10 & 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett et al, US 6,102,807 (Barrett).

a. Claims 1, 2, 4-6, 9 & 10. Fig. 1 shows a collapsible driveshaft 10 comprising a unitary tube 12 having an outer portion and a depressed portion 38 dividing the outer portion into two segments 34, 36, the depressed portion including tapered sides such that each tapered side has a uniform angle. Barrett does not expressly disclose the angles of the of the tapered sides being equal. However, the use of equal angles is deemed to be a

design consideration that fails to patentably distinguish over the prior art to Barrett for the same reason noted above in regard to Breese.

b. Claims 17-20. Barrett shows just one depressed portion 38 but does not expressly disclose multiple such portions. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the driveshaft of Barrett to include multiple depressed portion since such a modification would have involved a mere duplication of parts. The duplication of parts for a multiplied effect has no patentable significance and is considered well within the purview and obvious to one of ordinary skill in the art. *St. Regis Paper Co. v. Bemis Co., Inc.* 193 USPQ 8, 11 (7th Cir. 1977).

c. Claim 7. See item 'a' above.

d. Claim 8. See the second paragraph of item 9 above.

11. Claims 1-10 & 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo, US 6,022,047.

a. Claims 1, 2, 4-7, 9, 10 & 17-20. Fig. 1 shows a collapsible driveshaft having all the limitation of the claims except the depressed portions are shown as V-shaped instead having a uniform radius over longitudinal length. However, applicant has not disclosed that having the depressed portions with a uniform radius over longitudinal length solves any particular problem or is for any particular purpose. To the contrary, applicant disclosed in paragraph 0026 that the depressed portions could be made V-shaped with no deleterious effect. As such the use of a uniform radius over longitudinal length is deemed

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to be a design consideration that fails to patentably distinguish over the prior art to Okubo.

b. Claims 3 & 8. See the second paragraph of item 9 above.

Response to Arguments

12. Applicant's arguments with respect to claims 1-10 & 17-20 have been considered but are moot in view of the new grounds of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (571) 272-7077. The examiner can normally be reached on M-F 9:30 am to 7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Greg Binda
Primary Examiner
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